Table 2-H-18f
Bakersfield to Los Angeles – High-Speed Train Station Evaluation Matrix
Sylmar to Los Angeles Segment – Los Angeles Union Station Options

Station = Station Carried Forward **Station** = Station Eliminated = Primary or Secondary Reason for Elimination

Evaluation Criteria	Existing Union Station	Union Station South – Through	Union Station South-Stub Configuration	Los Angeles River – West
Maximize Ridership/Revenue Potential.				
Travel Time	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Length	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Population/Employment Catchment	1990 10-mile radius: 3,300,815 persons; 1,427,974 employed 1990 20-mile radius: 7,280,856 persons: 3,403,964 employed	1990 10-mile radius: 3,300,815 persons; 1,427,974 employed 1990 20-mile radius: 7,280,856 persons: 3,403,964 employed	1990 10-mile radius: 3,300,815 persons; 1,427,974 employed 1990 20-mile radius: 7,280,856 persons: 3,403,964 employed	1990 10-mile radius: 3,300,815 persons; 1,427,974 employed 1990 20-mile radius: 7,280,856 persons: 3,403,964 employed
	5	5	5	5
Maximize Connectivity and Accessibility.				
Intermodal Connections	• Airport (LAX) – 12.5 mi. (20.0 km) • Freeways – SR-101: adjacent; I-5: 1.2 mi. (1.9 km); I-110: 0.9 mi. (1.4 km); SR-60: 2.1 mi. (3.4 km); I-10: 0.7 mi. (1.1 km) • Amtrak – at site • MTA Bus – at site • El Monte Busway – at site • MTA Rail – Red Line, Pasadena Blue Line and proposed Eastside LRT: at site • Metrolink – at site	• Airport (LAX) – 12.5 mi. (20.0 km) • Freeways - SR-101: adjacent; I-5: 1.4 mi. (2.2 km); I-110: 0.9 mi. (1.4 km); SR-60: 2.1 mi. (3.4 km); I-10: 0.7 mi. (1.1 km) • Amtrak – 0.2 mi. (0.3 km) • MTA Bus – adjacent • El Monte Busway – 0.2 mi (0.3 km) • MTA Rail – Red Line and Pasadena Blue Line: across SR-101; proposed Eastside LRT: adjacent • Metrolink – 0.2 mi. (0.3 km)	• Airport (LAX) – 12.5 mi. (20.0 km) • Freeways - SR-101: adjacent; I-5: 1.2 mi. (1.9 km); I-110: 1.2 mi. (1.9 km); SR-60: 1.9 mi. (3.0 km); I-10: 0.6 mi. (1.0 km) • Amtrak – 0.2 mi. (0.3 km) • MTA Bus – 0.1 mi. (0.2 km) • El Monte Busway – 0.2 mi. (0.3 km) • MTA Rail – Red Line and Pasadena Blue Line: across SR-101; proposed Eastside LRT: 0.1 mi. (0.2 km) • Metrolink – 0.2 mi. (0.3 km)	• Airport (LAX) – 12.5 mi. (20.0 km) • Freeways - SR-101: adjacent; I-5: 1.2 mi. (1.9 km); I-110: 1.2 mi. (1.9 km); SR-60: 1.9 mi. (3.0 km); I-10: 0.6 mi. (1.0 km) • Amtrak – 0.4 mi. (0.7 km) • MTA Bus – 0.2 mi. (0.3 km) • El Monte Busway – 0.4 mi (0.7 km) • MTA Rail – Red Line and Pasadena Blue Line: 0.4 mi. (0.7 km); proposed Eastside LRT: 0.2 mi (0.3 km) future • Metrolink – 0.4 mi. (0.7 km)
	5	4	4	3

Evaluation Criteria	Existing Union Station	Union Station South – Through	Union Station South-Stub Configuration	Los Angeles River – West
Minimize Operating and Capital Costs.				
Length	• Shortest distance to northerly I-5 (Options 2 and 3) connections to Bakersfield.	• Long, looping alignment required to southerly (Option 3, 3A, 4, and 5) connections to San Diego.	• Shortest distance to UPRR/El Monte (Option 1) connection to San Diego. • Long, looping alignment required to southerly (Option 3, 3A, 4, and 5) connections to San Diego.	• Shortest length to most connections to Bakersfield and to San Diego.
	3	2	2	5
Operational Issues	• Not suitable for easterly SR-60 (Option 1A) and westerly SR-101 (Option 2) connections to San Diego and LAX, respectively. • Connection to easterly UPRR/El Monte (Option 1) alignment requires stub-end station.	• Best Station Location alternative for easterly UPRR/El Monte (Option 1) alignment connection. • Slow approach speeds. • Not suitable for easterly I-10 (Option 1B) connection to San Diego. • Requires loop around UP Los Angeles Yard to provide through-track to southerly (Options 3, 3A, 4, and 5) connections to San Diego.	• Not suitable for easterly I-10 (Option 1B) connection to San Diego. • Not suitable for northerly I-5 (Options 2 and 3) connections to Bakersfield. • Offers through-track alternative for westerly SR-101 (Option 2) connection to LAX.	• Offers high-speed alignment through station. • Not suitable for northerly I-5 (Options 2 and 3) connections to Bakersfield. • Not suitable for easterly SR-60 (Option 1A) and westerly SR-101 (Option 2) connections to San Diego and LAX, respectively. • Connection to easterly UPRR/El Monte (Option 1) alignment requires stub-end station.
	4	3	2	5
Construction Issues	• Requires modification of existing LAUS approaches (Amtrak, Metrolink), under live track conditions • Maintenance of adjacent rail and highway traffic.	• Construction over LA River. • Access through existing LAUS. • Maintenance of adjacent rail and highway traffic.	• Highway access • Maintenance of adjacent rail and highway traffic.	• Rail access, but difficult highway access.
	2	3	3	3
Capital Cost	• Significant aerial structures.	• Significant aerial structures. • Loop connections add to cost.	• Significant aerial structures.	• At-grade approaches, aerial facilities.
	2	1	1	3

Evaluation Criteria	Existing Union Station	Union Station South – Through	Union Station South-Stub Configuration	Los Angeles River – West
Right-of-Way Issues/Cost	• Catellus property. • Railroad relocation. • At grade. • Through tracks in CRA redevelopment area affect major development parcel.	• Span of Los Angeles River. • CRA redevelopment area. • Relocation of existing businesses.	• CRA Redevelopment area. • Relocation of existing businesses.	• Requires relocation of existing MTA bus facility. • Adjacent to penal facilities and law enforcement center.
	2	2	3	1
Maximize Compatibility with Existing and Planned Development.				
Land Use Compatibility and Conflicts	• The proposed station location would be located at the existing Union Station site at Alameda and Cesar Chavez Avenue. Both are Major Class II Highways planned to at least 4 lanes wide. These streets may have to be expanded to accommodate the station. • The station site is proposed within the Alameda Specific Plan area. In order not to conflict with the buildout of the Alameda Specific Plan, the station support facilities could be located south of the station in the Little Tokyo area. The location of support facilities in Little Tokyo may conflict with Los Angeles Community Redevelopment Agency Plans for Little Tokyo. The station would also be located within an area designated for Light Industrial land use. • Station can be configured to provide a new pedestrian connection over SR-101 directly into existing Union Station.	• Station platform would straddle the Los Angeles River. • The proposed station location is along E. Commercial St. and Alameda Blvd. Both may have to be expanded to accommodate the station location. • The surrounding land use is Light Industrial and Commercial Manufacturing and Open Space. • The station site can be configured to be compatible with Los Angeles Community Redevelopment Plans for Little Tokyo. The plans concur with MTA plans. • The station site can be configured to provide a new pedestrian connection over SR-101 to Patsouras Transit Plaza. • With a pedestrian connection there is a high potential for intermodal transfers to/from Union Station Amtrak and Metrolink, MTA Red Line, Pasadena Blue Line, proposed Eastside LRT, El Monte Busway and MTA Gateway.	• The proposed station location is along E. Commercial St. and Alameda Blvd. Both may have to be expanded to accommodate the station location. • The surrounding land use is Light Industrial and Commercial Manufacturing and Open Space. • Because it abuts Alameda Street, this station site may conflict with Los Angeles Community Redevelopment Agency Plans for Little Tokyo. • The plans may not be compatible with MTA plans for the Eastside LRT. • Station can be configured to provide a new pedestrian connection over SR-101 to Patsouras Transit Plaza. • With a pedestrian connection there is a high potential for intermodal transfers to/from to Union Station Amtrak and Metrolink, MTA Red Line, Pasadena Blue Line, proposed Eastside LRT extension, El Monte Busway and MTA Gateway.	• The proposed station location may require the expansion of Cesar Chavez Avenue. • The surrounding land use is Light Industrial. The station site would conflict with existing use of part of the area as a bus facility. The proposed station location would also conflict with the bus yard's proposed use as an MTA light rail repair facility in conjunction with the Eastside LRT extension. • Access to the intermodal facilities through adjacent area occupied by penal and law enforcement facilities may prove difficult. • There is a potential for intermodal connections with Union Station Amtrak and Metrolink, MTA Red Line, Pasadena Blue Line, proposed Eastside LRT, El Monte Busway and MTA Gateway. • Area is included in LA River Greenbelt planning effort.

Evaluation Criteria	Existing Union Station	Union Station South – Through	Union Station South-Stub Configuration	Los Angeles River – West
	• Plans for station through tracks crossing SR-101 may conflict with CalTrans plans for through tracks for Amtrak. • There is a very high potential for convenient intermodal connections due to presence of Union Station Amtrak and Metrolink, MTA Red Line, Pasadena Blue Line, proposed Eastside LRT, El Monte Busway and MTA Gateway at the site.	• Area is included in Los Angeles River Greenbelt planning effort.	• Development of this station site conflict with CalTrans plans for through tracks for Amtrak.	
	4	4	4	3
Visual Quality Impacts	• Commercial /industrial area. No sensitive viewers.	• Industrial area. • On north end, both sides of Spring Street, approach goes through the edge of Downey Playground.	• Commercial /industrial area. No sensitive viewers.	• Industrial area. No sensitive viewers.
	5	4	5	5
Minimize Impacts on Natural Resources.				
Water Resources	No Impacts.	No Impacts.	No impacts.	Potential minor impacts on water quality during construction, avoidance feasible.
	5	5	5	4
Floodplain Impacts	No impacts.	Requires construction of approach tracks across Los Angeles River.	Requires construction of approach tracks across Los Angeles River.	Requires construction of approach tracks across Los Angeles River.
	5	3	3	3
Threatened & Endangered Species Impacts	No impacts.	No impacts.	No impacts.	No impacts.
	5	5	5	5

Evaluation Criteria	Existing Union Station	Union Station South – Through	Union Station South-Stub Configuration	Los Angeles River – West
Minimize Impacts on Social and Economic Resources.				
Environmental Justice Impacts (Demographics)	1990 Minority population: 1912 1990 In-poverty households: 231	1990 Minority population: 2156 1990 In-poverty households: 414	1990 Minority population: 2603 1990 In-poverty households: 752	1990 Minority population: 2823 1990 In-poverty households:881
	3	3	3	3
Farmland Impacts	No impacts.	No impacts.	No impacts.	No impacts.
	5	5	5	5
Minimize Impacts on Cultural Resources.				
Cultural Resources Impacts	• Recorded historical sites on the GIS. • High potential for undiscovered sites, due to location of known sites in the area.	• No resources recorded on the GIS. • Unknown, probably high to moderate potential for undiscovered sites, due to location near the Los Angeles River and in an urban area.	• No resources recorded on the GIS. • Unknown, probably high to moderate potential for undiscovered sites, due to location in an urban area close center early settlement.	• No resources recorded on the GIS. • Unknown, probably high to moderate potential for undiscovered sites, due to location on Los Angeles River and in an urban area.
	1	2	2	2
Parks & Recreation/Wildlife Refuge Impacts	• No park resources located in the area.	• No park resources located in the area. • Area is included in Los Angeles River Greenbelt planning effort.	• No park resources located in the area.	• No park resources located in the area. • Area is included in Los Angeles River Greenbelt planning effort.
	5	2	4	3
Maximize Avoidance of Areas with Geologic and Soils Constraints.				
Soils/Slope Constraints	• Intermediate hardness units considered unlikely to marginal relative to compressibility. • Medium subsidence potential. • Probably stable formations consisting of hard rock or granular continental deposits.	• Intermediate hardness units considered unlikely to marginal relative to compressibility. • Medium subsidence potential. • Probably stable formations consisting of hard rock or granular continental deposits.	• Intermediate hardness units considered unlikely to marginal relative to compressibility. • Medium subsidence potential. • Probably stable formations consisting of hard rock or granular continental deposits.	• Intermediate hardness units considered unlikely to marginal relative to compressibility. • Medium subsidence potential. • Probably stable formations consisting of hard rock or granular continental deposits.
	4	4	4	4

Evaluation Criteria	Existing Union Station	Union Station South – Through	Union Station South-Stub Configuration	Los Angeles River – West
Seismic Constraints	• Low to medium liquefaction potential. • No active fault crossings. • Low probable ground motion from earthquakes.	• Low to medium liquefaction potential. • No active fault crossings. • Low probable ground motion from earthquakes.	• Low to medium liquefaction potential. • No active fault crossings. • Low probable ground motion from earthquakes.	• Low to medium liquefaction potential. • No active fault crossings. • Low probable ground motion from earthquakes.
	4	4	4	4
Maximize Avoidance of Areas with Potential Hazardous Materials.				
Hazardous Materials/Waste Constraints	• There are 5 CERCLIS, SPL, or SCL sites near the station location. • There may be some sites adjacent to the station due to the location of industrial uses nearby the station.	• There are 3 CERCLIS, SPL, or SCL sites near the station location. • There may be some sites adjacent to the station due to the location of industrial uses nearby the station.	• There are 4 CERCLIS, SPL, or SCL sites near the station location. • There may be some sites adjacent to the station due to the location of industrial uses nearby the station.	• There are 2 CERCLIS, SPL, or SCL sites near the station location. • There may be some sites adjacent to the station due to the location of industrial uses nearby the station and due to the existing MTA bus yard.
	4	4	4	4

1 2 3 4 5
Least Favorable **Most Favorable**

Table 2-H-18f continued
Bakersfield to Los Angeles – High-Speed Train Station Evaluation Matrix
Sylmar to Los Angeles Segment – Los Angeles Union Station Options

Station = Station Carried Forward **Station** = Station Eliminated = Primary or Secondary Reason for Elimination

Evaluation Criteria	Los Angeles River – East	Cornfield Site
Maximize Ridership/Revenue Potential		
Travel Time	Not Applicable	Not Applicable
Length	Not Applicable	Not Applicable
Population/Employment Catchment	1990 10-mile radius: 3,300,815 persons: 1,427,974 employed 1990 20-mile radius: 7,280,856 persons: 3,403,964 employed	1990 10-mile radius: 3,300,815 persons: 1,427,974 employed 1990 20-mile radius: 7,280,856 persons: 3,403,964 employed
	5	5
Maximize Connectivity and Accessibility		
Intermodal Connections	• Airports – LAX: 12.5 mi. (20.0 km) • Freeways– SR-101: adjacent; I-5: 1.2 mi. (1.9 km); I-110: 1.4 mi. (2.2 km); SR-60: 1.6 mi. (2.6 km); I-10: 0.4 mi. (0.6 km) • Amtrak – 0.4 mi. (0.7 km) • MTA Bus – 0.2 mi. (0.3 km) • MTA Rail – Red Line: 0.4 mi. (0.7 km); proposed Eastside LRT: 0.2 mi. (0.3 km) • Metrolink – 0.4 mi. (0.4 km)	• Airport – LAX: 12.5 mi. (20.0 km) • Freeways - SR-101: 1.0 mi. (1.6 km); I-5: 0.8 mi. (1.3 km); I-110: 0.3 mi. (0.5 km); SR-60: 2.8 mi. (4.5 km); I-10: 1.2 mi. (1.9 km) • Amtrak – 0.9 mi. (1.5 km) • MTA Bus – 0.2 mi. (0.3 km) • MTA Rail – Pasadena Blue Line: 0.2 mi. (0.3 km); Red Line: 0.9 mi. (1.5 km) • Metrolink – 0.9 mi. (1.5 km)
	3	2
Minimize Operating and Capital Costs		
Length	• Shortest length to many connections to Bakersfield and to San Diego.	• Longer length to San Diego connections.
	4	3

Evaluation Criteria	Los Angeles River – East	Cornfield Site
Operational Issues	• High speed alignment through station. • Not suitable for northerly I-5 (Options 2 and 3) connections to Bakersfield. • Not suitable for easterly SR-60 (Option 1A) and westerly SR-101 (Option 2) connections to San Diego and LAX, respectively.	• Slow approach speeds. • Not suitable for northerly I-5 (Options 2 and 3) connections to Bakersfield. • Not suitable for westerly SR-101 (Option 2) connection to LAX.
	5	1
Construction Issues	• Construction over Los Angeles River.	• Highly congested approaches (topographic, railroad operations).
	3	3
Capital Cost	• At-grade with structures crossing river and aerial facilities.	• Significant aerial structure.
	3	2
Right-of-Way Issues/Cost	• Relocation of railroad from East Bank of Los Angeles River.	• Open land. • Public support for development as parkland.
	3	3

Evaluation Criteria	Los Angeles River – East	Cornfield Site
Maximize Compatibility with Existing and Planned Development		
Land Use Compatibility and Conflicts	• Santa Fe Center St. and First St. may have to be expanded to accommodate the station. • Surrounding land uses are Commercial Industrial, Light Industrial, and nearby Medium Density Multifamily Residential. Station site can be configured to provide a new pedestrian connection over SR-101. • The station site can be configured to be compatible with Los Angeles Community Redevelopment Plans for Little Tokyo. The plans concur with MTA plans. • There is no proposed or existing intermodal connection site near the proposed station location. However, with appropriate configuration of ancillary and pedestrian facilities there is a high potential for intermodal connections due to nearby presence of Union Station Amtrak and Metrolink, MTA Red Line, Pasadena Blue Line, proposed Eastside LRT, and MTA gateway - 0.5mi. (0.8 km).	• N. Broadway Ave. and Spring St. may have to be expanded to accommodate the station. • Surrounding land use is Light Industrial. The station location would conflict with plans for a Regional Park. • There is no proposed or existing intermodal connection site at the proposed station location. However the site is near a Pasadena Blue Line station - 0.2 mi. (0.3 km). • Area is included in LA River Greenbelt planning effort.
	4	2
Visual Quality Impacts	Industrial area. No sensitive viewers.	Industrial area. No sensitive viewers.
	5	5

Evaluation Criteria	Los Angeles River – East	Cornfield Site
Minimize Impacts on Natural Resources.		
Water Resources	Potential minor impacts on water quality during construction, avoidance feasible.	No impacts.
	4	5
Floodplain Impacts	Access tracks cross Los Angeles River.	No impacts.
	4	5
Threatened & Endangered Species Impacts	No impacts.	No impacts.
	5	5
Minimize Impacts on Social and Economic Resources.		
Environmental Justice Impacts (Demographics)	1990 Minority population: 2747 1990 In-poverty households: 836	1990 Minority population: 1492 1990 In-poverty households: 197
	3	3
Farmland Impacts	No impacts.	No impacts.
	5	5

Evaluation Criteria	Los Angeles River – East	Cornfield Site
Minimize Impacts on Cultural Resources.		
Cultural Resources Impacts	• No resources recorded on the GIS. • Unknown, probably high to moderate potential for undiscovered sites, due to location on Los Angeles River and in an urban area.	• No resources recorded on the GIS. • Unknown, probably high to moderate potential for undiscovered sites, due to location in urban area and former railroad yard.
	2	2
Parks & Recreation/Wildlife Refuge Impacts	• No park resources located in the area.	• No park resources located in the area. • Area is included in LA River Greenbelt planning effort.
	4	4
Maximize Avoidance of Areas with Geologic and Soils Constraints.		
Soils/Slope Constraints	• Intermediate hardness units considered unlikely to marginal relative to compressibility. • Medium Subsidence Potential. • Probably stable formations consisting of hard rock or granular continental deposits.	• Intermediate hardness units considered unlikely to marginal relative to compressibility. • Medium Subsidence Potential. • Probably stable formations consisting of hard rock or granular continental deposits.
	4	4
Seismic Constraints	• Low to Medium Liquefaction Potential. • No active fault crossings. • Low probable ground motion from earthquakes.	• Low to Medium Liquefaction Potential. • No active fault crossings. • Low probable ground motion from earthquakes.
	4	4

Evaluation Criteria	Los Angeles River – East	Cornfield Site
Maximize Avoidance of Areas with Potential Hazardous Materials		
Hazardous Materials/Waste Constraints	• There are no CERCLIS, SPL, or SCL sites near the station location. • There may be some sites adjacent to the station due to the location of industrial uses nearby the station.	• There are no CERCLIS, SPL, or SCL sites near the station location. • There may be some sites adjacent to the station due to the location of industrial uses nearby the station.
	4	4

1 2 3 4 5
Least Favorable **Most Favorable**